

REMARKS

In the Office Action, dated January 9, 2008, the Examiner states that Claims 1-14 are pending, of those, Claims 1-4 are withdrawn, and Claims 5-14 are rejected. By the present Amendment, Applicant amends Claim 1, cancels Claim 14, and amends the drawings.

In the Office Action, Figure 2 was objected to because reference characters "22" and "24" have both been used to designate the spreader roll and the lump removing roll. The Applicant submits herewith a Replacement Sheet of Figure 2 wherein the spreader roll is accurately labeled "22" and the lump removing roll is accurately labeled "24". Therefore, the present objection to the drawings should be deemed overcome.

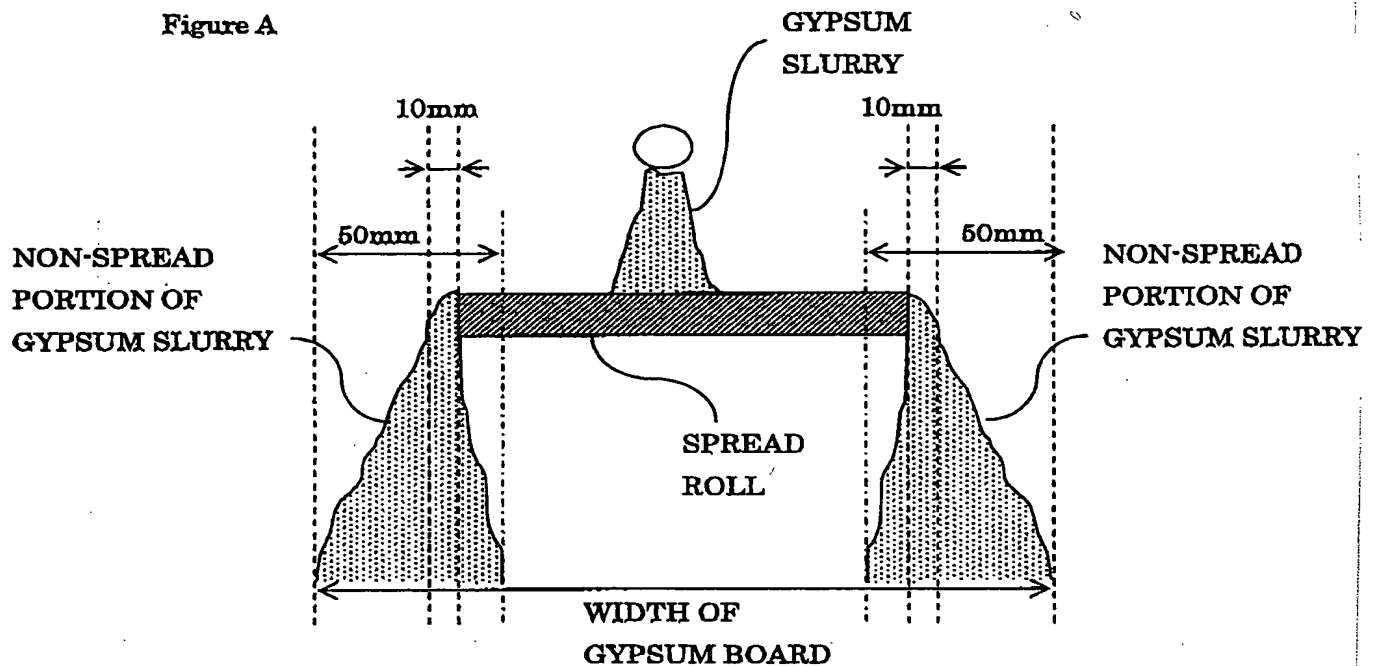
In the Office Action, Claims 5-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Japan 808 (JP 08-112808) in view of Sucech et al. (U.S. 5,683,635), Hauber et al. (U.S. 6,878,321), Birdsey (U.S. 1,514,827), and Ferguson (U.S. 5,799,458). The Applicant has amended Claim 1 to overcome the rejection to the claims. Specifically, independent Claim 1 now claims a length of the spreader roll in axial directions is 98% through 108% of a distance between boundary lines of the front surface and the side surface and a width of the non-spread portion is less than 10 mm. This feature of the present invention is not disclosed in any of the cited references, and therefore, the present invention is not obvious in view of the references.

The Applicant agrees that Japan 808 discloses at paragraph 0015, "it is generally preferable that the width of a non-spread portion 20 is 10 mm through 50 mm". The Applicant believes that a person skilled in the art would have understood the disclosure of JP 808 to mean that the width of a non-spread portion 20 is not a fixed value in a range of 10 mm to 50 mm, but the width changes from 10 mm to 50 mm continuously. In other words, because the non-spread portion of 20 of gypsum slurry has a flow property, the width of the non-spread portion should be small immediately after the gypsum slurry runs off an end of a spread roll 14, and then the width continuously increases as the non-spread portion spreads towards an edge of a paper sheet A and moves to the side downstream. Thus, the width of the non-spread portion 20 which spreads from near the end of the spread roll 14 to the side

downstream has a numerical range of 10 mm through 50 mm. Therefore, according to the above description, the lower limit of the width of the non-spread portion 20 is preferably 10 mm and the upper limit of the width of the non-spread portion 20 is preferably 50 mm.

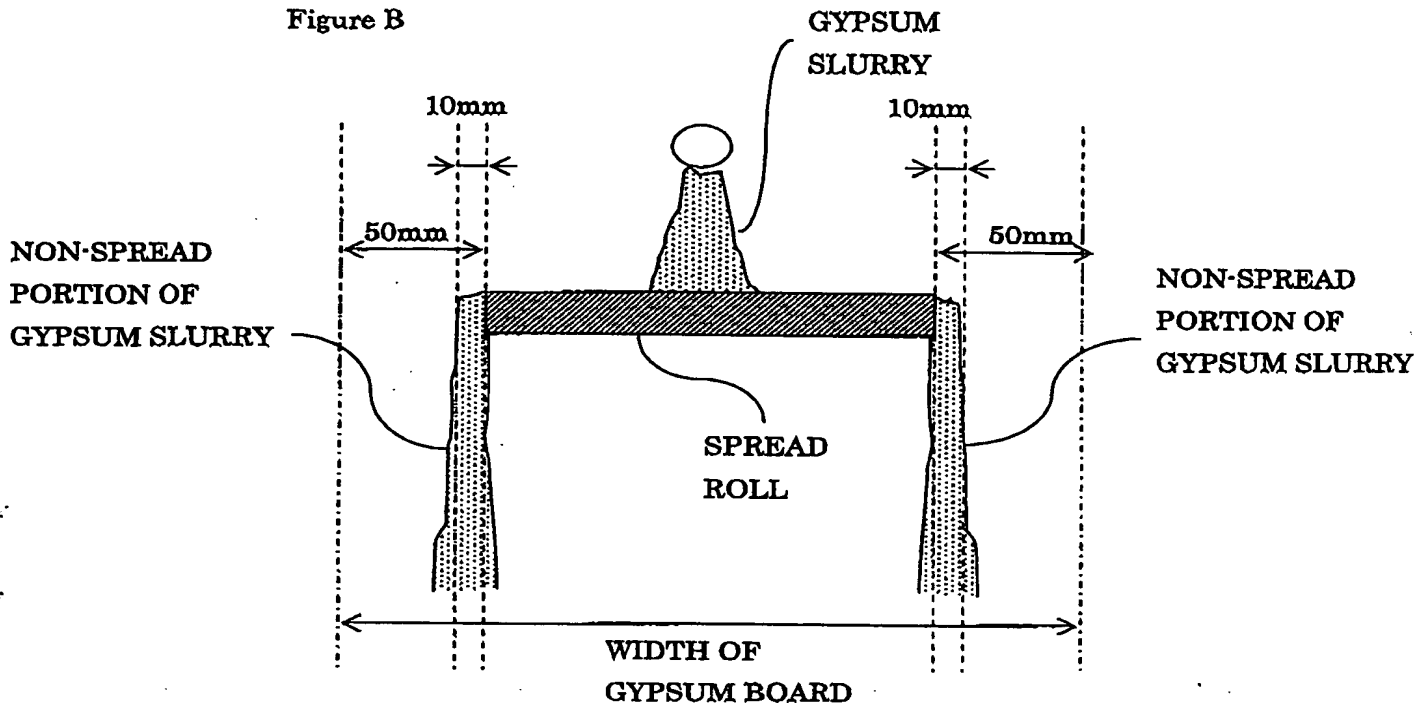
To further explain JP 808 (which is a Japanese patent application of the assignee of the subject application), the Applicant provides the following discussion and illustrative figures. Figure A schematically shows that the non-spread portion of the gypsum slurry spreads from the upstream side to the downstream side, wherein the width of the non-spread portions are initially 10 mm near both ends of the spread roll and 50 mm in the downstream area.

Figure A



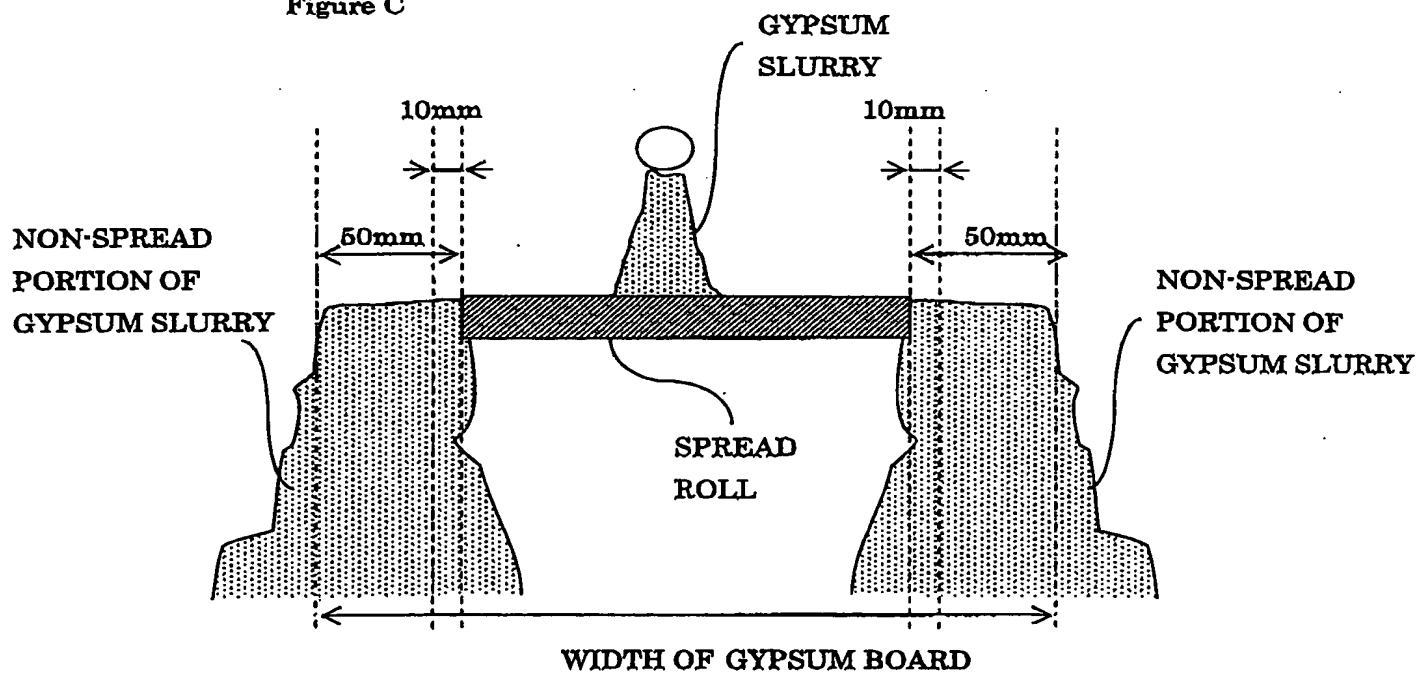
One skilled in the art would not understand the disclosure of JP 808 to mean the initial width of the non-spread portion is a certain value in the range of 10 mm to 50 mm and then slightly increases toward the downstream side because certain problems are associated with such a definition. For example, as illustrated in Figure B, if the initial width of the non-spread portion 20 of the gypsum slurry near the end of the spread roll 14 is a value of 10 mm and then slightly increased toward the downstream side, then no hard-edge part having the desired width would be formed and there would be an increased possibility of dry-out.

Figure B



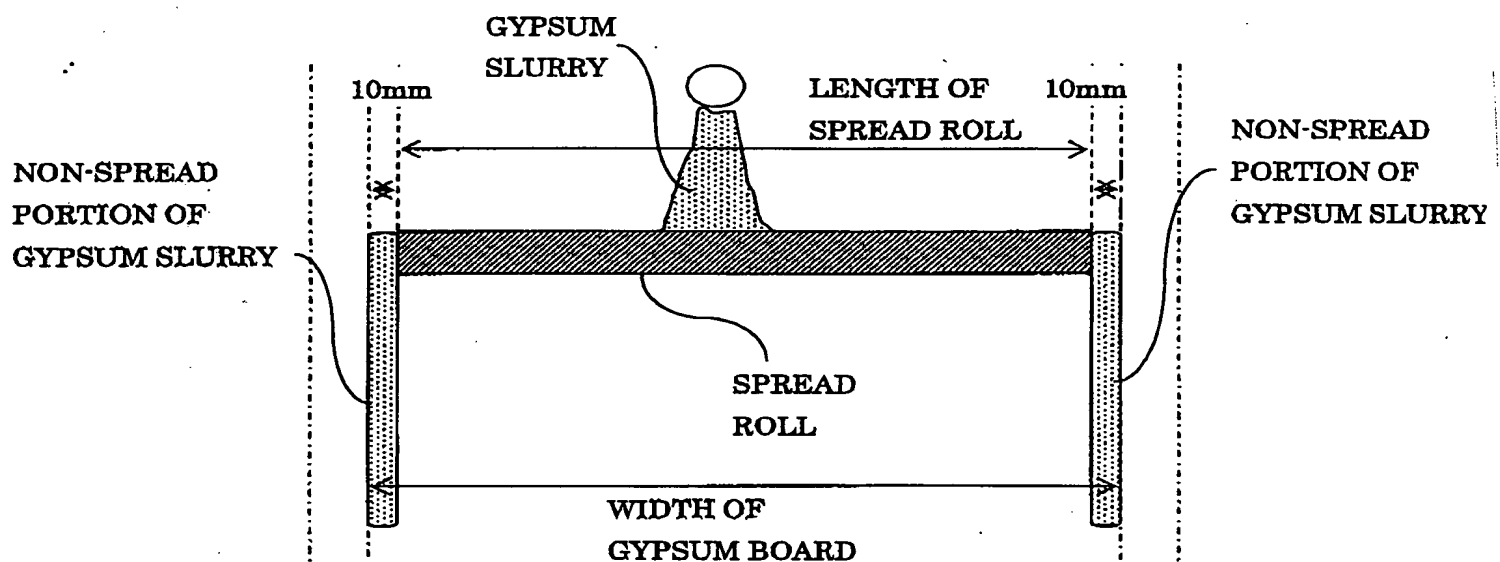
Moreover, as shown in Figure C, if the initial width of the non-spread portion 20 of the gypsum slurry near the end of the spread roll 14 is a value of 50 mm and then the width slightly increased toward the downstream sides, the amount of gypsum slurry for the non-spread portion 20 would be excessive and an oversized hard edge part would form. Accordingly, a part of the gypsum slurry for the non-spread portion would spread to a spread portion of the gypsum slurry and/or spill out of a paper sheet.

Figure C



Therefore, the Applicant respectfully disagrees with the assertion that the width of the non-spread portion 20 of the gypsum slurry as disclosed in JP 808 is a fixed value of, for example 10 mm. Furthermore, the Applicant respectfully disagrees with the assertion that the width of the non-spread portion 20 of the gypsum slurry as disclosed in JP 808 is a fixed value of, for example 10 mm, as shown in Figure D, and when the width of the non-spread portion 20 is a fixed value of 10 mm and the width of a gypsum board is 4 feet, the ratio of the length of the spread roll 14 to the width of the gypsum board may be 98.3%.

Figure D

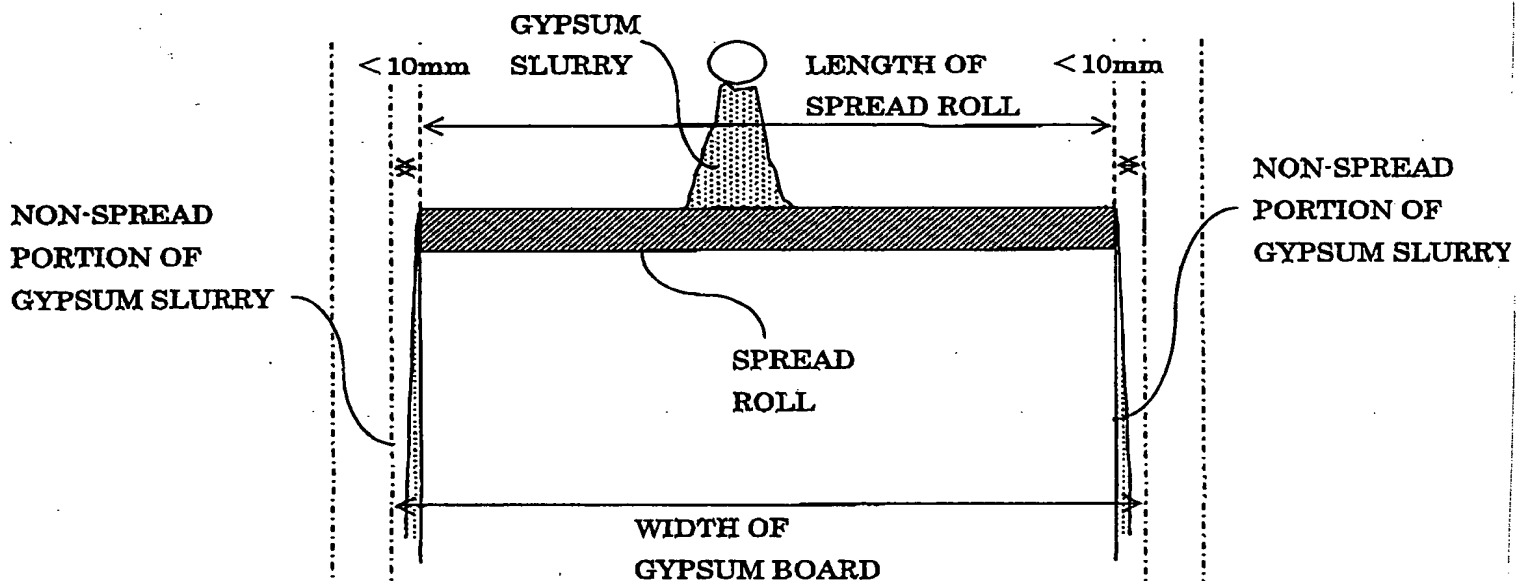


The Applicant asserts that since the non-spread portion 20 of the gypsum slurry has a flow property, it is not rational that the width of the non-spread portion 20 has a fixed value of 10 mm. Accordingly, JP 808 does not disclose, teach, or suggest that the width of the non-spread portion 20 has a fixed value of 10 mm. Rather, the description in JP 808 would be understood by one skilled in the art to mean that the width of the non-spread portion 20 is variable and preferably has a continuous value from 10 mm to 50 mm, as discussed above. Thus, because the width Y of the non-spread portion 20 is not a fixed value, but a continuously variable value, the width W of a gypsum board, the length L of the spread roll 14, and the width Y of the non-spread portion 20 of gypsum slurry do not satisfy a relationship of

$W=L+2Y$. The assumptions of "Y being a fixed value of 10 mm" and " $W=L+2Y$ " are incorrect in view of the technical common knowledge of a person skilled in the art. Accordingly, the result of $L/W = 0.983$ (98.3%) is technically inaccurate. Furthermore, no description of the ratio of the length L of the spread roll 14 to the width W of the gypsum board is found in any of the cited references.

Regardless, "the relationship a length of the spreader roll in axial directions is 98% through 108% of a distance between boundary lines of the front surface and the side surface and a width of the non-spread portion is less than 10 mm", as claimed in amended Claim 1 is not disclosed, taught or suggested in any of the cited references. Therefore, the relationship, as shown in Figure E, is not obvious in view of the cited references.

Figure E

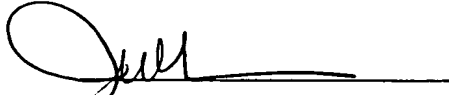


In light of the foregoing response, all the outstanding objections and rejections are considered overcome. Applicant respectfully submits that this application should now be in condition for allowance and respectfully requests favorable consideration.

Respectfully submitted,

April 9, 2008

Date

A handwritten signature in black ink, appearing to read 'Julie', followed by a horizontal line.

Attorney for Applicant
Julie L. Langdon
c/o Ladas & Parry LLP
224 South Michigan Avenue
Chicago, Illinois 60604
(312) 427-1300
Reg. No. 59001